

IN THE CLAIMS:

1-3 (Canceled)

612 5 ~~4~~ (Currently Amended) The process for producing a hydrogenated ester according to claim ~~30~~<sup>4</sup>, wherein the corresponding hydrogenated ester is a portion or the entirety of the recycled hydrogenated ester which has been produced by the hydrogenation reaction of the unsaturated group-containing ester represented by ~~the general~~ formula (1).

5. (Canceled)

6. (Previously Amended) The process for producing a hydrogenated ester according to claim ~~30~~<sup>4</sup>, wherein the reaction temperature at the initial time of the hydrogenation reaction is in the range of 0°C to 200°C.

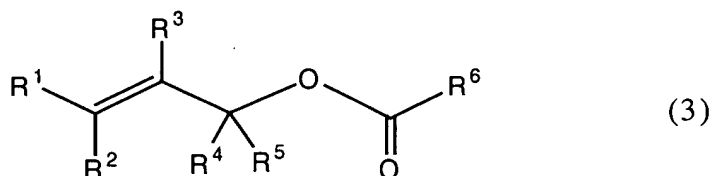
7. (Currently Amended) The process for producing a hydrogenated ester according to claim ~~30~~<sup>4</sup>, wherein the unsaturated group-containing ester represented by ~~the general~~ formula (1) is at least one compound selected from the group consisting of: allyl acetate, crotyl acetate, methallyl acetate, allyl propionate, crotyl propionate, methallyl propionate, vinyl acetate, vinyl propionate, 1,3-butadienyl acetate, and 1,3-butadienyl propionate.

8. (Canceled)

78 ~~9.~~ (Previously Amended) The process for producing a hydrogenated ester according to claim ~~30~~<sup>4</sup>, wherein the hydrogenation reaction is conducted by a liquid-phase reaction by use of a fixed bed-type reactor.

1 ~~10.~~ (Currently Amended) A process for producing a hydrogenated ester by hydrogenating an unsaturated group-containing ester represented by ~~a general~~ formula (3) by

using a hydrogenating catalyst wherein the hydrogenating catalyst is a compound comprising at least one element selected from the group consisting of Group 8 elements, Group 9 elements and Group 10 elements in the periodic table according to Nomenclature of Inorganic Chemistry, Revised Edition, 1989, International Union of Pure and Applied Chemistry, so as to produce a hydrogenated ester corresponding to the unsaturated group-containing ester, wherein the concentration of a carboxylic acid in a raw material containing the unsaturated group-containing ester represented by the general formula (3) is 1 wt. % or less:



wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> denote an arbitrary alkyl group containing 1-10 carbon atoms, an arbitrary alkenyl group containing 2 - 10 carbon atoms, or a hydrogen atom and may be the same as or different from each other; the alkyl group and alkenyl group may be either straight-chain or branched; R<sup>6</sup> represents a C1-C10 alkyl group.

11. (Canceled)

2 12. (Currently Amended) The process for producing a hydrogenated ester according to claim 11, wherein the hydrogenating catalyst comprises at least one species-element selected from the group consisting of ~~compounds of~~ palladium, rhodium or ruthenium.

3 13. (Currently Amended) The process for producing a hydrogenated ester according to claim 10, wherein the allyl-type ester represented by the general formula (1) is at least one ~~species of~~ allyl-type ester selected from the group consisting of allyl acetate, crotyl acetate, methallyl acetate, allyl propionate, crotyl propionate, and methallyl propionate.

14-23 (Canceled)

<sup>10</sup>~~24~~ (Previously Amended) The process for producing a hydrogenated ester according to claim <sup>9</sup>~~31~~, wherein the hydrogenation is carried out at a reaction temperature in the range of 0° to 200°C.

<sup>15</sup>~~25~~ (Currently Amended) The process for producing a hydrogenated ester according to ~~claims~~<sup>14</sup>~~claim~~ <sup>14</sup>~~33~~, wherein the hydrogenation is carried out at a reaction temperature in the range of 0° to 200° C.

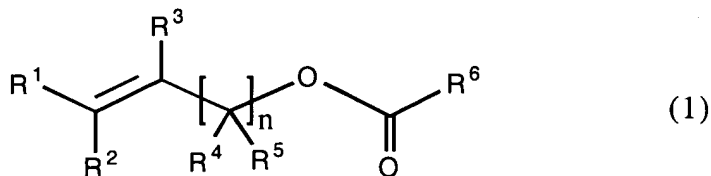
<sup>12</sup>~~26~~ (Currently Amended) The process for producing a hydrogenated ester according to claim <sup>9</sup>~~31~~, wherein the unsaturated group-containing ester as a raw material is diluted with an inert solvent and the resultant diluted liquid is used as the raw material-containing ~~a~~-liquid to be hydrogenated.

<sup>17</sup>~~27~~ (Previously Amended) The process for producing a hydrogenated ester according to claim <sup>14</sup>~~33~~, wherein the unsaturated group-containing ester as a raw material is diluted with an inert solvent and the resultant diluted liquid is used as the raw material-containing liquid to be hydrogenated.

<sup>16</sup>~~28~~ (Previously Amended) The process for producing a hydrogenated ester according to claim <sup>15</sup>~~35~~, wherein the inert solvent is a hydrogenated ester corresponding to the unsaturated group-containing ester as a raw material.

<sup>11</sup>~~29~~ (Previously Amended) The process for producing a hydrogenated ester according to claim <sup>10</sup>~~34~~, wherein the inert solvent is a hydrogenated ester corresponding to the unsaturated group-containing ester as a raw material.

30 (Currently Amended) A process for producing a hydrogenated ester by hydrogenating an unsaturated group-containing ester represented by the following ~~general~~ formula (1) in the presence of a hydrogenating catalyst wherein the hydrogenation catalyst is a compound comprising at least one element selected from the group consisting of Group 8 elements, Group 9 elements and Group 10 elements according to Nomenclature of Inorganic Chemistry, Revised Edition, 1989, International Union of Pure and Applied Chemistry, so as to produce the corresponding hydrogenated ester corresponding to the unsaturated group-containing ester

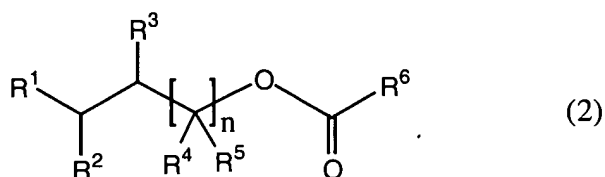
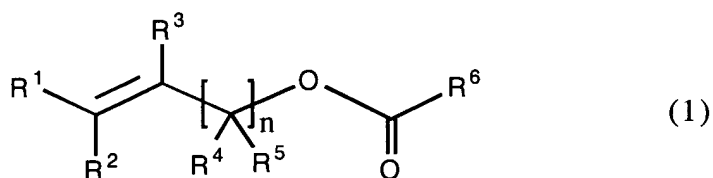


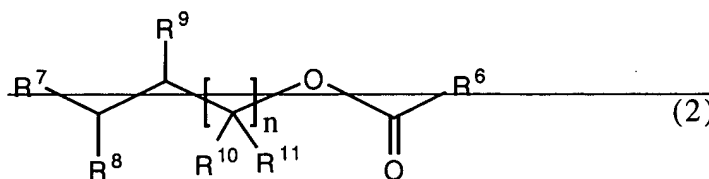
wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> denote an arbitrary alkyl group containing 1-10 carbon atoms, an arbitrary alkenyl group containing 2 - 10 carbon atoms, or a hydrogen atom and may be the same as or different from each other; the alkyl group and alkenyl group may be either straight-chain or branched; R<sup>6</sup> denotes an arbitrary alkyl group which contains 1 - 10 carbon atoms and may be either straight-chain or branched; and n is 0 or 1, comprising

providing an unsaturated group-containing ester represented by ~~the general~~ formula (1), wherein the concentration of the unsaturated group-containing ester represented by ~~general~~ formula (1) at the initial time of the hydrogenation reaction thereof is in the range of 1 wt % -50 wt % based on the entirety of the raw material liquid containing the unsaturated group-containing ester; and

reacting the unsaturated group-containing ester with hydrogen while diluting said unsaturated group-containing ester with an inert solvent to effectuate a hydrogenation reaction, wherein the inert solvent is the corresponding hydrogenated ester.

9-31. (Currently Amended) A process for producing a hydrogenated ester, wherein an unsaturated group-containing ester represented by the general formula (1) is hydrogenated by using a hydrogenating catalyst wherein the hydrogenating catalyst is a compound comprising at least one element which contains at least one metal selected from the group consisting of Group VIII-8 elements, Group IX-9 elements, and Group X-10 elements in the periodic table according to Nomenclature of Inorganic Chemistry, Revised Edition, 1989, International Union of Pure and Applied Chemistry, and is to be used for hydrogenating an unsaturated group-containing ester represented by the following formula (1) to thereby produce a hydrogenated ester represented by the following formula (2), wherein the catalyst has an acidity of  $1.0 \times 10^{-1}$  mol/g or less:





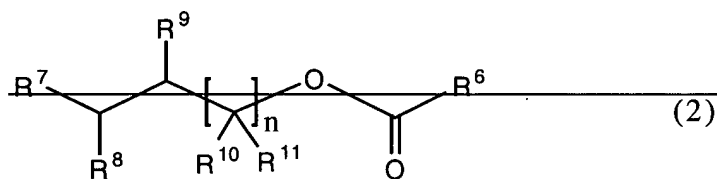
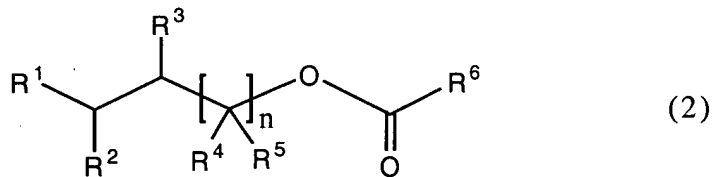
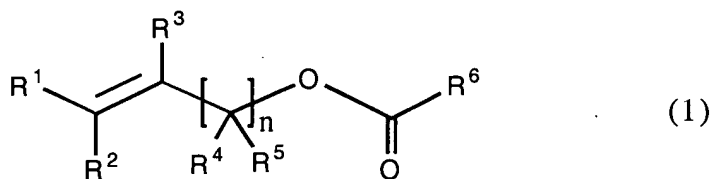
612  
cont

wherein n represents 0 or 1;  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  denote an arbitrary alkyl group containing 1-10 carbon atoms, an arbitrary alkenyl group containing 2 - 10 carbon atoms, or a hydrogen atom and may be the same as or different from each other; the alkyl group and alkenyl group may be either straight-chain or branched; and  $R^6$  represents a  $C_1$ - $C_{10}$  alkyl group; and each of  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ , and  $R^{11}$  represents a  $C_1$ - $C_{10}$  alkyl group, a  $C_2$ - $C_{10}$  alkenyl group, or a hydrogen atom independently to each other.

1213 32. (Currently Amended) The process for producing a hydrogenated ester according to claim 31, wherein the hydrogenating catalyst comprises at least one ~~species~~ element selected from the group consisting of palladium, ruthenium and rhodium.

1714 33. (Currently Amended) A process for producing a hydrogenated ester, wherein at least one ~~of the species of an unsaturated group-containing ester~~ selected from the group consisting of allyl acetate, crotyl acetate, methallyl acetate, allyl propionate, crotyl propionate, methallyl propionate, vinyl acetate, 1,3-butadienyl acetate, 1-methyl-1-propenyl acetate, vinyl propionate, 1,3-butadienyl propionate, and 1-methyl-1-propenyl propionate is hydrogenated by using a hydrogenating catalyst wherein the hydrogenating catalyst is a compound comprising at least one element ~~which contains at least one metal~~ selected from the group consisting of Group ~~VIII~~ 8 elements, Group ~~IX~~ 9 elements, and Group ~~X~~ 10 elements in the periodic table according

to Nomenclature of Inorganic Chemistry, Revised Edition, 1989, International Union of Pure and Applied Chemistry, and is to be used for hydrogenating an unsaturated group-containing ester represented by the following formula (1) to thereby produce a hydrogenated ester represented by the following formula (2), wherein the catalyst has an acidity of  $1.0 \times 10^{-1}$  mol/g or less:



wherein  $n$  represents 0 or 1;  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  denote an arbitrary alkyl group containing 1-10 carbon atoms, an arbitrary alkenyl group containing 2 - 10 carbon atoms, or a hydrogen atom and may be the same as or different from each other; the alkyl group and alkenyl group may be either straight-chain or branched; and  $R^6$  represents a  $C_1$ - $C_{10}$  alkyl group; and each of  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ , and  $R^{11}$  represents a  $C_1$ - $C_{10}$  alkyl group, a  $C_2$ - $C_{10}$  alkenyl group, or a hydrogen atom independently to each other.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No.: 09/582,495

Attorney Docket No.: Q59644

612  
contd  
18  
34  
141  
(Currently Amended) The process for producing a hydrogenated ester according  
to claim 33, wherein the hydrogenating catalyst comprises at least one ~~species~~element selected  
from the group consisting of palladium, ruthenium and rhodium.

---